a state of change, very readily effected its transformation into glucose, when it gave all the characteristic reactions of this substance. Dr. Pavy further stated, that by means of chemical agents and the microscope the natural seat of this material could be shown to be in the interior of the hepatic cells.—*Lancet*, Oct. 17, 1857.

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10. *On the Immediate Principles of Human Excrements in the Healthy State.*—Dr. W. MARCET communicated the following paper to the Royal Society:—

In a previous paper, I had the honour of communicating to the Royal Society the results of a first series of investigations on the immediate principles of the feces of man and animals; since then I have continued my researches on human excrements, being most ably seconded by my assistant, Mr. Frederick Dupré, Ph.D.

The new results obtained were the following:—

1. *Margarate of lime*, *phosphate of lime*, and *margarate of magnesia* were discovered to be immediate principles of human evacuations.
2. I found a new method for obtaining excretine, and its chemical formula has been established.
3. The fact that vegetable food induces the presence of margaric acid in excrements has been confirmed.
4. The existence of a comparatively large quantity of cholesterine in the spleen, which I had mentioned before as probable, has been confirmed.

When human feces are exhausted with boiling alcohol, the fluid being rapidly strained through a cloth, a clear extract is obtained, which, in cooling, yields a deposit; this substance being collected on a filter, is partly soluble in boiling alcohol, and there remains undissolved a residue insoluble in ether and alcohol. The residue in question being boiled with a solution of potash, dissolves almost entirely, and the addition of hydrochloric acid induces the formation of a precipitate in the solution. On examining this precipitate, it was found to consist of a crystallizable substance fusing at 60° Cent.: its structure and other properties were precisely those of *margaric acid*.

The acid filtrate contained *phosphoric acid* and *lime*. From several quantitative analyses, I concluded that there was more lime than is required to combine with the phosphoric acid in the form of the neutral phosphate, the excess of lime being exactly that which was necessary to convert the margaric acid into a neutral margarate of lime, $C_{34}H_{33}+O_3CaO$. Consequently it followed that the three substances existed in the form of *margarate of lime* and *phosphate of lime* as immediate principles of human feces.

The alcoholic filtrate from the deposit being allowed to stand for twenty-four hours, deposited another substance, of a nearly white appearance, and which proved to be *margarate of magnesia*.

The peculiar action of a vegetable diet on human feces was investigated by means of experiments undertaken upon myself, when I observed that an entirely vegetable diet was attended with the formation of a large quantity of margaric acid in the excrements—most probably not in the form of a margarate, but in the free state, inasmuch as it was obtained from the decomposition, with hydrochloric acid, of the precipitate induced by adding milk of lime to the cold and clear alcoholic extract of feces, after the separation of the above-described deposits.

In the month of December, 1855, I had an opportunity of noticing that during a cold night, when the temperature falls below the freezing point, *excretine* crystallizes readily and in large quantity in the clear alcoholic extract of feces; this method I employed as often as possible, to prepare enough excretine for its chemical analysis; but the cold weather not lasting long enough, and this season having been remarkably mild, I was compelled to adopt a modification of the process by milk of lime, described in my former communication.

Having prepared a sufficient quantity of excretine partly by the action of cold, and partly by means of milk of lime, the chemical composition of this substance was now determined. A qualitative analysis showed it to consist of carbon, hydrogen, sulphur, and oxygen (a); there was no water of crystallization present. Oxide of copper was employed at first for the combustions, but they were subsequently undertaken with chromate of lead, on account of the large proportion of carbon that excretine contains; no substance having been found to combine with it, its atomic composition was calculated from the assumption that one equivalent contained one equivalent of sulphur; and the following formula was obtained:—

78 eq. Carbon	468
78 eq. Hydrogen	78
1 eq. Sulphur	16
2 eq. Oxygen	16
Atomic weight of Excretine	578

In my former communication I had stated that when the tissue of the spleen is submitted to a process of analysis similar to that adopted for the extraction of excretine, a substance closely allied to cholesterine is obtained. This subject being one of great importance in a physiological point of view, I have resumed the investigation, and placed beyond doubt that this substance is really *cholesterine.* Its presence in the spleen is evidently independent of that which might exist in the blood retained by this organ after death. Is it that the spleen secretes cholesterine? This can only be determined by actual experiment; but it is very remarkable that a part of the blood which is supplied to the liver should come directly from an organ containing large quantities of a substance known to enter into the composition of the bile.—*Med. Times and Gaz.*, Oct. 24, 1857.

MATERIA MEDICA AND PHARMACY.

11. *Permanganate of Potash as a Caustic, Deodorant, and Stimulant.*—Dr. D. F. Girwood extols (*Lancet*, Sept. 12, 1857) the permanganate of potash as a caustic, deodorant, and stimulant, and if what he states in regard to it shall be confirmed by the experience of others, it will be a most valuable medicinal agent.

"As a deodorant, as an escharotic, as a stimulant," he asserts, "it is a most useful application, combining, as it does, all these three qualities."

In a case of cancer of the os uteri, Dr. G. employed it in the double capacity of deodorant and escharotic, to destroy the fetid odour and to check the exuberant granulations, and induce a healthy appearance of the ulcerated surface. He injected twenty grains to the pint of water frequently during the day, with much benefit.

In a case of cancer of the breast he applied it in powder sprinkled on the sloughy mass, and as a lotion (ten grains to the ounce). From a gaping sore, in most offensive condition, it occasioned the wound to assume in some parts a disposition to granulate, and it entirely removed the offensive odour of the apartment.

In various other cases of offensive ulcers he has used it with equal advantage.

When it is wished to destroy masses of cancerous growth Dr. G. uses it in a solid form, either as a powder, or in a mass as the sulphate of copper or other caustics. A piece of lint wet with the lotion, of the strength of two to twenty grains, Dr. G. says, supersedes all the charcoal, yeast and carrot poultices.

A teaspoonful of the substance mixed with a tablespoonful of water in a dinner plate, and placed under the bed or anywhere convenient destroys all odour, and it has this great advantage over other deodorants, that it has no odour of its own. Most deodorants are themselves a nuisance, for while destroying one odour they create another; the permanganate is free from this.

12. *On the Oriental Bath.*—Dr. Haughton read before the Physiological Section of the British Association at its recent meeting at Dublin, the following interesting paper on this subject:—